

VEHICLE ROLLOVER SENSING USING ANGULAR ACCELEROMETER

Abstract of the Disclosure

A vehicle rollover sensing apparatus and method are provided for predicting a future roll angle and an overturn condition of a vehicle. The apparatus includes an angular accelerometer for sensing angular acceleration of the vehicle and producing an output signal indicative thereof. A first integrator integrates the sensed angular acceleration signal and produces an angular rate. A second integrator integrates the angular rate and generates a current roll angle. A predictor predicts a future roll angle as a function of the sensed angular acceleration, angular rate, and current roll angle. A comparator compares the predicted future roll angle to a threshold value. The apparatus generates a vehicle overturn condition signal based on said comparison, and signals deployment of restraint devices.